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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,236	09/25/2003	Leo S. Chang	019022-000510US	8703
62204 7590 02/26/2007 GE TRADING & LICENSING 1 RESEARCH CIRCLE ATTN: BRANDON, K1 - 2C11 NISKAYUNA, NY 12309			EXAMINER VO, LILIAN	
			ART UNIT 2195	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			02/26/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/672,236

Applicant(s)

CHANG ET AL.

Examiner

Lilian Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 - 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 - 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1 – 23 are pending.
2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/06/06 has been entered.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 1-6, 16-19, and 22-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Heimsoth et al. (USPN 5,764,915) (hereinafter Heimsoth) in view of Broder et al. (USPN 5,991,808) (hereinafter Broder).
5. As per **claim 1**, Heimsoth teaches the invention as claimed, including a computer system for optimizing processing of an annotation request from a client, comprising:

a request processor for receiving said annotation request from said client and to break said annotation request down into a plurality of constituent tasks (Fig. element 22, col. 22, lines 13 – 45, col. 24 lines 27 – 63, col. 25 lines 37 - 63);

a thread-controlling means for maintaining a plurality of threads (col. 21 lines 45 - 56);

an assigning means for assigning said plurality of threads to said plurality of constituent tasks in said task queue (col. 22 lines 13-25); and

task execution means for concurrently executing the plurality of constituent tasks in the respective plurality of threads on the request processor (col. 24 lines 37 – 63).

Broder teaches the invention as claimed, including a task queue for storing a plurality of constituent tasks that need to be performed for said annotation request (col. 4 lines 21 - 28). It would have been obvious to one of ordinary skill in the art to combine Heimsoth and Broder, as Broder provides an added dimension of schedulability to the design of Heimsoth. Heimsoth discusses dynamically allocating threads from the thread pool, but is silent regarding as to how to deal with excess requests. By including a FIFO task queue, additional tasks can be held at the server, thereby increasing the parallel processing capabilities of the system.

6. As per **claim 2**, Heimsoth teaches the invention as claimed, including a computer system according to claim 1, wherein said plurality of threads is independent from said plurality of constituent tasks stored in said task queue (col. 22 lines 26 - 45).

7. As per **claim 3**, Heimsoth teaches the invention as claimed, including a computer system according to claim 1, wherein said plurality of threads is persistent (col. 23 lines 8 - 33).

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8. As per **claim 4**, Broder teaches the invention as claimed, including a computer system according to claim 1, wherein said plurality of constituent tasks is arranged in a substantially first-in-first-out basis within said task queue (col. 4 lines 21 - 28).

9. As per **claim 5**, Heimsoth teaches the invention as claimed, including a computer system according to claim 1, wherein when a thread is available for assignment, said thread is assigned to a constituent task when said constituent task is ready for execution (co. 24 lines 37 - 63).

10. As per **claim 6**, Heimsoth teaches the invention as claimed, including a computer system according to claim 5, wherein said assigned thread is released upon conclusion of said constituent task (col. 24 lines 64 - col. 25 line 4).

11. As per **claims 16 - 19 and 22**, similar limitations are presented as those in claims 1 - 3 and 6. It is noted that in claim 16, the tasks are referred to as "requisite tasks" as opposed to "constituent tasks." However, as Heimsoth is related to a multithreading environment, it can safely be assumed that all tasks to be performed in the system will be subject to multithreading requirements. As such, an operating system thread must be allocated as well as I/O threads and other such essential, i.e. "requisite" system threads. Since these are required for the successful operation of the system, it follows that Heimsoth covers requisite tasks as well as constituent tasks.

12. As per **claim 23**, Heimsoth teaches the invention as claimed, including a method according to claim 19, wherein said assigning of said available thread to said constituent

task is independent of the nature of said constituent task (col. 25 lines 37-63).

13. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heimsoth in view of Broder in view of Bahr.

14. As per **claim 7**, Bahr teaches the invention as claimed, including a computer system according to claim 1, wherein said plurality of constituent tasks includes checking a cache to determine whether information pertaining to said annotation request is present in said cache (col. 4 lines 7-20).

As Bahr teaches increasing the number of tasks executed in cache, Bahr inherently must check the cache to determine if information pertaining to that task is present in the cache. It would have been obvious to one of ordinary skill in the art to combine Heimsoth and Broder with Bahr since allowing tasks to execute in cache would significantly increase performance by saving the processing time of looking up the information regarding a task each time it is executed. Retrieval from persistent memory or from the disk is an expensive and time-consuming operation. To store task information in cache would greatly reduce pre-processing overhead.

15. Claims 8 - 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heimsoth in view of Broder in view of Bauer (USPN 5,877,759).

16. As per **claims 8 - 9**, Bauer teaches the invention as claimed, including a computer system according to claim 1, wherein said plurality of constituent tasks includes retrieving information

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pertaining to said annotation request from one or more sources, wherein said one or more sources include the Internet (col. 7 lines 45 - 57). It would have been obvious to one of ordinary skill in the art to combine Heimsoth and Broder with Bauer since Bauer provides a way of ensuring that the it against another information regarding a task is completely up to date by checking resource. In this way, the most accurate results are obtained.

17. Claims 10 - 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heimsoth in view of Broder in view of van Hoff (USPN 5,822,539).

18. As per **claim 10**, van Hoff teaches the invention as claimed, including a computer system according to claim 1, wherein said plurality of constituent tasks includes annotating a retrieved web page with additional hyperlinks (col. 5 lines 26 - 55). It would have been obvious to one of ordinary skill in the art to combine Heimsoth and Broder with van Hoff as Internet use for commercial purposes is ever increasing, such that providing information to a user pertaining to resources the user is interested in has a marketable benefit. van Hoff provides a way of supplementing Heimsoth and Broder by providing a function may result in a gain in revenue.

19. As per **claim 11**, van Hoff teaches the invention as claimed, including a computer system according to claim 1, wherein said plurality of constituent tasks includes updating a cache with annotated information (col. 1 lines 39 - 55).

20. Claims 12 - 15 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heimsoth in view of Broder in view of Spix et al. (USPN 5,179,702) (hereinafter Spix).

21. As per **claim 12**, Spix teaches the invention as claimed, including a computer system according to claim 1, further comprising:

an I/O queue for storing a plurality of I/O tasks identified from said plurality of constituent tasks, wherein said plurality of I/O tasks only perform input and/or output functions (col. 15 lines 3-27).

It would have been obvious to one of ordinary skill in the art to combine Heimsoth and Broder with Spix since Spix shows how to achieve full functionality of a multithreaded system. The system must be able to perform I/O operations as well as run an operating system while performing the claimed annotation. In this sense, Spix provides a way of queuing I/O tasks in a way that the system can perform input and output functions without interrupting the operating system functions.

22. As per **claim 13**, Spix teaches the invention as claimed, including' a computer system according to claim 12, wherein two or more of said plurality of I/O tasks are executed in a parallel manner (col. 14 line 61 - col. 15 line 2).

23. As per **claim 14**, Heimsoth teaches the invention as claimed, including a computer system according to claim 12, wherein said task queue is notified upon completion of each of said plurality of I/O tasks (col. 25 lines 5-12).

24. As per **claim 15**, the examiner takes an "Official Notice" that a computer system according to claim 14, wherein upon said notification one or more of said plurality of constituent



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tasks which require results from said executed I/O tasks are rendered ready for execution is considered well known and expected feature in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include this feature such as to wait until a specific task has completed due to data dependencies and other related dependencies to as modified Heimsoth to satisfy the execution order.

25. As per **claims 20 – 21**, similar limitations are presented as those in claims 12 – 13 and 15.

#### *Response to Arguments*

26. Applicant's arguments filed 12/06//06 have been fully considered but they are not persuasive for the reasons set forth below.

27. Applicant argues that Heimsoth “does not discloses task execution means for executing the plurality of constituent tasks in the respective plurality of threads. Instead, the tasks in Heimsoth et al. are executed before the threads are assigned... This is because the threads in Heimsoth et al. are not used for task execution but for session management” (page 6 9<sup>th</sup> paragraph), the examiner disagrees. Heimsoth clearly discloses such features in col. 24 lines 37 – 63. The passage from col. 22 line 61 – col. 23 line 7 in Heimsoth was never cited in the office action. Furthermore, this passage merely states that the client tasks (client requests) are sent before the threads are assigned. It does not state that tasks are executed before the threads are assigned. In addition, the claim recites the task execution is on the request processor (server) which in the server processes (executes) the task. This is exactly what Heimsoth discloses in which the tasks are executed on the server side (col. 22 line 61 – col. 23 line 7), thus still read on

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the claims. With respect to applicant's remark that thread in Heimsoth are not used for task execution but for session management, applicant to note that the thread sessions are associated with the tasks. The thread would not be needed/used if there are no tasks for processing.

28. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., thread is defined as "an authorization without which a particular request cannot be executed by the server...." (page 8 1<sup>st</sup> paragraph)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, applicant to note that the passage (page 3 lines 21 –24) which applicant refers to is in the background of the disclosure is considered as prior art.

29. Because Applicants have failed to challenge any of the examiner's "Official Notice" in proper and seasonably manner, they are now considered as admitted prior art. See MPEP 2144.03.

However, with respect to applicant's request for clarification of the "Office Notice" taken by the examiner, more clarification is provided in the rejected claim as stated above. Applicant is directed to the rejected claim 15 for clarification.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 571-272-3774. The examiner can normally be reached on Thursday 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit 2195

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February 15, 2007

  
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